G. OTHER COMMENTS CONTAIN SPECIFIC FACTUAL ERRORS

With respect to the MUSE HDTV system, NHK must point out several errors made by other commenters in referring to the equipment requirements and related costs associated with MUSE HDTV.

MUSE satellite transmission has occurred in Japan several times since December 1986 using the BS-2b broadcast satellite (output 100 watts, 12GHz, RF band 27MHz). These test transmissions produced extremely high picture quality using a 75cm (30 inch) antenna. This type of antenna is now being widely used in Japan for reception of satellite broadcasts of conventional NTSC programming currently being provided through the BS-2b.

Thus, it is clearly a mistaken notion that the MUSE system requires a 6dB greater C/N, making it necessary to employ an antenna which is twice as large as those presently used. An antenna which is the same size as, or a little larger than, that required for the NTSC system more than suffices to help secure an improved MUSE signal-to-noise ratio as compared with that of NTSC. These conventional broadcasts are becoming extremely popular, and the equipment required should gain in performance while they come down in price.

It has also been pointed out that MUSE is not suited for AM transmission. This claim, however, was laid to rest with the terrestrial broadcast tests run in Washington, D.C. in January 1987, using the 12 GHz and UHF frequencies, which proved clearly that the system can use AM transmission.

MUSE hardware incorporates movement compensation technology, as well as the latest in digital technology and developments to obtain a high level of picture quality, including that of the beginning and completion of movement. The human eye focuses on a moving object directly before it and tracks that object. When this happens, visual acuity vision declines, obviating the necessity for the moving object to be displayed with high definition. The MUSE system takes into account this fundamental property of human vision. The claim that the MUSE system throws the subject out of focus when it begins to move is thus groundless.

H. TESTING OF COMPETING ATV SYSTEMS MUST BEGIN IMMEDIATELY AS SHOULD EVALUATION OF SPECTRUM AVAILABILITY

NHK is prepared to undertake further testing of its own system, in cooperation, of course, with the standards and criteria established by the ATSC and/or the FCC Advisory Committee. However, NHK believes that dual testing of the various ATV systems should be encouraged, both by the system's proponent and by the decision-making body. This will ensure a cross-check of the tests as well as impartiality on the part of both testing bodies. Widely variant results would also be more easily open to challenge.

As discussed in an earlier section, time is of the essence. A testing scheme and timetable must be developed within the next few months so that system testing can begin by mid-1988. Several system proponents have acknowledged that their systems will be in the prototype stage by that time. The MUSE Family Systems can undergo testing by that time, or earlier. Testing of all proponent systems should be completed within a year from the start of testing and enough data should then be available to select the ATV system standard for the United States. A terrestrial broadcast standard should be selected by mid-1989.

As a parallel procedure, testing of the UHF taboos must also begin. All such spectrum-related testing should work within the same timetable as that of the systems testing so that any spectrum reallocation can be planned well in advance to ease the transition to full HDTV. As an interim measure to ease the transition to full HDTV and the expected spectrum allocation, an interim system, such as NTSC MUSE-6 can be implemented for those stations who wish to begin gradually upgrading their facilities.

III. CONCLUSION

The NHK MUSE Family Systems have been designed to address the issues and concerns raised by the NOI, the FCC, the Congress, and the other commentors in this proceeding. NHK's desire is to cooperate with the United States broadcasting industry in developing a competitive advanced television system of the highest quality to better serve the desires of the American public. To that end, NHK has introduced a two-phase advanced television system which offers the American consumer compatibility with their present NTSC receivers and the American broadcaster a cost-conscious system of components which can be

phased-in over a period of time to maximize utilization of those components. NHK suggests that advanced planning by the FCC and the broadcasting community will yield the greatest utilization and the smoothest implementation of the MUSE Family Systems or any other ATV system. However, time is of the essence. A quality system is now available, and will be implemented quickly by other media. Too much testing and debate will relegate broadcasters to second class status while the American public turns to other media for the HDTV quality to which it will quickly become accustomed.

Respectfully submitted,

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